# 7.0 COMPARISON OF PROGRAM ALTERNATIVES

Based on the analyses in preceding chapters, Table 7-1, at the end of this Section, provides a generalized summary of impacts by Program Alternatives. Table 7-1 indicates any beneficial impacts and the maximum level of adverse impact that would be expected, before mitigation, under each Program Alternative and the No Project Alternative. If a Program Alternative has more than one adverse impact for a given resource area, the table notes the maximum (highest) adverse impact. Program Alternative Impacts are broadly classified as follows:

- I = Significant, not mitigable to less than significant
- II = Significant, mitigable to less than significant
- III = Adverse but not significant
- IV = Beneficial
- 0 = No impact

The following are summaries by resource area that explain the impacts reflected in Table 7-1. In each resource area section, the impacts are summarized typically for each Program Alternative, but where the impacts are essentially the same for several Program Alternatives they are discussed as a group. See the resource area discussions in Section 3 for more detail.

## 7.1 AIR QUALITY

PA1 through PA5 (including 5a and 5b), involving removal or in-place modification of the shell mounds, would have significant but mitigable impacts (Class II) on air quality in the Santa Barbara County region due to daily NOx emissions from project activities. Emissions of NOx, ROC, and CO associated with the transport of materials would also be significant but mitigable (Class II) in the Los Angeles (South Coast) Air Basin region. Air quality impacts of offsite mitigation (PA6) would also be significant but mitigable (Class II); examples of impacts and mitigation measures are described in the Final EIR for the Carpinteria Salt Marsh Enhancement Plan (SBCFCWCD 2003, SCH 2003021016). Emission reduction measures and offsets would reduce all impacts to less than significant (Class III). The No Project Alternative would have no impact.

## 7.2 MARINE WATER QUALITY AND SEDIMENT QUALITY

PA1 and PA5a would have beneficial effects (Class IV) due to the removal of contaminated sediments. PA1 would have short-term significant but mitigable impacts (Class II) associated with the dispersion of contaminants from the shell mound materials and the potential for spills during removal. If ocean disposal of the contaminated sediments were to occur, the impacts would be significant and unmitigable (Class I). PA2 and PA5b would have significant and unmitigable impacts (Class I) associated with the dispersion of contaminated sediments onto the surrounding seafloor. PA3, PA4, and PA6 would all have significant but mitigable impacts (Class II). The No Project Alternative would result in unmitigated risks of contaminant releases to the marine

environment if the integrity of the shell mounds were compromised, a Class I impact if such releases were to occur.

## 7.3 MARINE BENTHIC HABITATS, INVERTEBRATES, AND FISHES

Impacts would be qualitatively the same as those described above for marine water quality and sediment quality. There would be beneficial impacts under PA1 and PA5a (Class IV) due to the removal of contaminated sediments, eliminating risks of toxicity and bioaccumulation for marine biota. Significant but umitigable impacts (Class I) would occur for PA1 and PA5a with ocean disposal, and for PA2 and PA5b due to the spreading of contaminants on the seafloor. Other Program Alternatives (PA3, PA4, and PA6) would have significant but mitigable (Class II) impacts related to potential releases of contaminants from the shell mounds or project vessels. The No Project Alternative would result in unmitigated risks of contaminant releases to the marine environment if the integrity of the shell mounds were compromised, a Class I impact if such releases were to occur.

## 7.4 MARINE WILDLIFE

The impacts on marine wildlife would be qualitatively the same as described above for marine habitats, invertebrates, and fishes. This includes the beneficial impacts (Class IV) of shell mounds removal under PA1 and PA5a; significant and unmitigable impacts (Class I) of either ocean disposal (if approved under PA1) or in-place spreading (PA2, PA5b) of shell mounds sediments; and significant but mitigable (Class II) impacts associated with the release of contaminants or oil spills during program activities. In addition, significant but mitigable (Class II) impacts for PA1 through PA5 are associated with the hazards posed to marine wildlife (including potential take of marine mammals) by various program activities, including explosive demolition of the Hazel caissons. These impacts are mitigable by measures that minimize the risks to marine wildlife. The No Project Alternative would result in unmitigated risks of contaminant releases to the marine environment if the integrity of the shell mounds were compromised, a Class I impact if such releases were to occur.

## 7.5 COMMERCIAL AND RECREATIONAL FISHERIES

The impacts of Program Alternatives on commercial and recreational fisheries would be qualitatively the same as described above for other marine resources. This includes the beneficial impacts (Class IV) of shell mounds removal under PA1 and PA5a; significant and unmitigable impacts (Class I) of either ocean disposal (if approved under PA1) or in-place spreading (PA2, PA5b) of shell mounds sediments; and significant but mitigable (Class II) impacts associated with the release of contaminants (including oil spills) during program activities, or in the long term if the shell mounds were left in place under PA4 or PA6. Impacts of explosive demolition (PA1) and preclusion of fishing due to program activities (applicable to all Program Alternatives that remove or modify the shell mounds) would also be significant but mitigable (Class II). There would be additional beneficial impacts (Class IV) related to the removal of obstructions to trawling under PA1 and PA5a, and the construction of artificial reefs, which could benefit fishery

resources under PA4 and PA5. Offsite mitigation under PA6 would mitigate the permanent loss of fishery habitat and fishing opportunity if the shell mounds were left in place (Class II). The No Project Alternative would result in unmitigated risks of contaminant releases to the marine environment if the integrity of the shell mounds were compromised, a Class I impact if such releases were to occur.

## 7.6 LAND USE AND RECREATION

PA1 through PA5 would have less than significant impacts (Class III), whereas there would be no impacts in the case of PA6 and the No Project Alternative.

## 7.7 TRANSPORTATION

PA1 through PA5 would have less than significant impacts (Class III), whereas there would be no impacts in the case of PA6 and the No Project Alternative.

## 7.8 ONSHORE GEOLOGY, WATER RESOURCES, AND BIOLOGICAL RESOURCES

PA1 through PA5 would have less than significant impacts (Class III), whereas there would be no impacts in the case of PA6 and the No Project Alternative.

## 7.9 SAFETY/HAZARDS/RISK OF UPSET

PA1 through PA5 would all have potentially significant but mitigable (Class II) impacts due to safety risks associated with in-water program activities. There would be no impacts in the case of PA6 and the No Project Alternative.

## 7.10 OTHER RESOURCE AREAS

The Program Alternatives would have no impact or no significant impact on cultural resources, public services and utilities, or aesthetics. For noise, PA1 and PA2 would have less than significant (Class III) impacts, and PA3 through PA6 would have no impacts. The No Project Alternative would have no impact on any of these four resource areas.

## 7.11 ENVIRONMENTAL JUSTICE

None of the Program Alternatives would have Environmental Justice impacts.

## 7.12 CONCLUSION

Significant but unmitigable (Class I) impacts are associated with components of three Program Alternatives. Under PA1, if shell mounds materials were disposed in the ocean, there would be significant, unmitigable water quality and biological impacts. These impacts would not occur if the materials were disposed onshore. Under PA2 and PA5b, the spreading of shell mound materials on the sea floor would have significant unmitigable sediment quality and biological impacts. Other significant impacts

associated with Program Alternatives are all mitigable (Class II). Beneficial (Class IV) impacts would occur with the removal of the shell mounds (PA1 and PA5a), and, for fishery resources, with the creation of artificial reefs (PA4 and PA5). The No Project Alternative would have unmitigated impacts due to the risk of contaminant releases from the shell mounds if the integrity of the shell mounds were compromised, a Class I impact if such releases were to occur.

## Table 7-1. Comparison of Impacts by Program Alternative (PA) (page 1 of 2)

| *Resource Area* | *PA1: Remove and Dispose of Shell Mounds + Caissons* | *PA2: Level + Spread Shell Mounds; Remove + Dispose of Caissons* | *PA3: Cap Shell Mounds + Caissons* | *PA4: Build Reefs Around Shell Mounds* | *PA5a: Build Reef Around Hazel Caissons after Shell Mounds Removal* | *PA5b: Build Reef Around Hazel Caissons After Shell Mounds Leveling and Spreading* | *PA6: Offsite Mitigation* | *No Project* |
|---|---|---|---|---|---|---|---|---|
| Air Quality | II | II | II | II | II | II | II (see SBCFCWCD 2003) | 0 |
| Marine Water & Sediment Quality | IV due to removal of contaminants; I | I | II | II | IV due to removal of contaminants; I | I | II | I* |
| Marine Benthic Habitats, Invertebrates, and Fishes | IV due to removal of contaminants; I | I | II | II | IV due to removal of contaminants; I | I | II | I* |
| Marine Wildlife | IV due to removal of contaminants; I | I | II | II | IV due to removal of contaminants; I | I | II | I* |
| Commercial & Recreational Fishing | IV due to removal of contaminants & restoration of fishing; I | II | II | IV due to creation of reef habitat; II | IV due to removal of contaminants and creation of reef habitat; II | IV due to restoration of fishing & creation of reef habitat; II | II | I* |
| Land Use and Recreational Water Use | III | III | III | III | III | III | 0 | 0 |
| Transportation | III | III | III | III | III | III | 0 | 0 |
| Onshore Geology | III | III | III | III | III | III | 0 | 0 |
| Onshore Water Resources | III | III | III | III | III | III | 0 | 0 |
| Onshore Biological Resources | III | III | III | III | III | III | 0 | 0 |

## Table 7-1. Comparison of Impacts by Program Alternative (PA) (page 2 of 2)

| *Resource Area* | *PA1: Remove and Dispose of Shell Mounds + Caissons* | *PA2: Level + Spread Shell Mounds; Remove + Dispose of Caissons* | *PA3: Cap Shell Mounds + Caissons* | *PA4: Build Reefs Around Shell Mounds* | *PA5a: Build Reef Around Hazel Caissons after Shell Mounds Removal* | *PA5b: Build Reef Around Hazel Caissons After Shell Mounds Leveling and Spreading* | *PA6: Offsite Mitigation* | *No Project* |
|---|---|---|---|---|---|---|---|---|
| Safety/Hazards/ Risk of Upset | II | II | II | II | II | II | 0 | 0 |
| Cultural Resources | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Noise | III | III | 0 | 0 | 0 | 0 | 0 | 0 |
| Public Services and Utilities | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aesthetics | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Environmental Justice | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

1. For *adverse* impacts:
   - I = significant and unavoidable adverse impact
   - II = significant, but mitigable adverse impact
   - III = adverse, but less than significant impact
   - 0 = negligible or no impact

   For *beneficial* effects:
   - IV = beneficial

* With the No Project Alternative, no action would be taken to monitor or remediate contaminant releases from the shell mounds, resulting in an unmitigated impact.